

TWO NEW SPECIES AND ONE NEW RECORD OF THE GENUS JACOBSONINA HEBARD (BLATTARIA, BLATTELLIDAE) FROM CHINA

WANG Zong Qing¹, JIANG Hong Yun², CHE Yarr Li¹

1. College of Plant Protection, Southwest University (SWU), Chongqing 400716, China; E-mail: wangzongqing@yahoo.com

2. Institute of Plant Protection, Chinese Academy of Agricultural Sciences, Beijing 100094, China

Abstract In the present paper, *Jacobsonina* Hebard is reviewed and two new species, *Jacobsonina arca* sp. nov., *Jacobsonina tortuosa* sp. nov., are described and illustrated. In addition, *J. platysoma* (Walker, 1868) is reported from China for the first time. A key to all species from China, based on males is provided.

Key words Blattaria, Blatellidae, *Jacobsonina*, new species, new record, China.

The cockroach genus *Jacobsonina* was established by Hebard (1929) for its type species, *J. simplex* Hebard from Sumatra, Indonesia. The diagnostic characters of this genus are: small body size, hind wing with narrow anterior field and adult males lacking styles. Princis (1969) listed 5 species worldwide, one of which, *Neoblattella heuritti fusca* Hanitsch, 1928 was moved to *Parasymptoe* by Roth (1985). Bey-Bienko (1970) described *J. parva* Bey-Bienko from Vietnam. Subsequently, Roth (1989, 1991) transferred *Scalidia triaenata* Hebard, 1929, *Dewittea spinifera* Princis, 1963 to *Jacobsonina*, and *J. interlinata* (Hanitsch, 1927) to *Blattella* respectively. Roth (1993) transferred *Balta platysoma* Walker, 1868 to *Jacobsonina*, at the same time he stated that *J. platysoma* (Walker, 1868) was a senior synonym of *Hemithysocera subcolorata* (Walker, 1871). Roth (1999) described *J. diangnaiensis*, *J. excavata* and *J. myitkyina* from Thailand and Burma, and transferred *Blattella albomarginata* Hanitsch, 1930 to *Jacobsonina*. Currently, *Jacobsonina* includes 11 species. Herein, we describe two new species from China and provide a key for their separations. The type specimens are kept in the Insect Collection of Southwest University (SWU) and the Institute of Zoology, Chinese Academy of Sciences (IZCAS).

Checklist of the species of *Jacobsonina*

- J. albomarginata* (Hanitsch, 1930: 181, *Blattella*), Indonesia.
- J. aliena* (Brunner, 1893: 15, *Phyllodromia*), Burma, China.
- J. diangnaiensis* Roth, 1999: 141, Thailand.
- J. excavata* Roth, 1999: 143, Thailand.
- J. lugubris* (Brunner, 1893: 16, *Phyllodromia*), Burma.
- J. myitkyina* Roth, 1999: 147, Burma.
- J. parva* Bey-Bienko, 1970: 371, Vietnam.
- J. platysoma* (Walker, 1868: 111, *Blatt*), India, Burma, China.
- J. simplex* Hebard, 1929: 57, Indonesia.
- J. spinifera* (Princis, 1963: 140, *Dewittea*), Guinea.
- J. triaenata* (Hebard, 1929: 53, *Scalidia*), Borneo, Malaysia.
- J. arca* sp. nov., China.
- J. tortuosa* sp. nov. China.

Jacobsonina Hebard

Jacobsonina Hebard, 1929: 56. Type species: *Jacobsonina simplex* Hebard, 1929, by original designation.

Generic diagnosis. Vertex with interocular space slightly narrower than the distance between antennal sockets. Pronotum nearly elliptical and flattened, concealing the head and mesonotum, with anterior margin nearly truncate and mid of posterior margin slightly convex. Tegmina and hind wings fully developed, former with branched radial vein and longitudinal discoidal sectors. Hind wing with narrow anterior field, costal veins usually unbranched, radial vein usually simple, straight, median and cubitus veins weakly curved or straight, latter with 0-2 complete and no incomplete branches, apical triangle subobsolete or absent. Fore femur Type B₃; pulvilli present on 4 proximal tarsomeres of all legs, tarsal claws simple, arolia present. Abdominal terga unspecialized, or seventh abdominal tergum specialized, with a glandular area.

Male genitalia. Supranal plate in ventral view nearly symmetrical, without intercercal process, right and left paraprocts dissimilar. Subgenital plate in dorsal view strongly asymmetrical, genital hook on left side, rarely with hook and right phallomere absent.

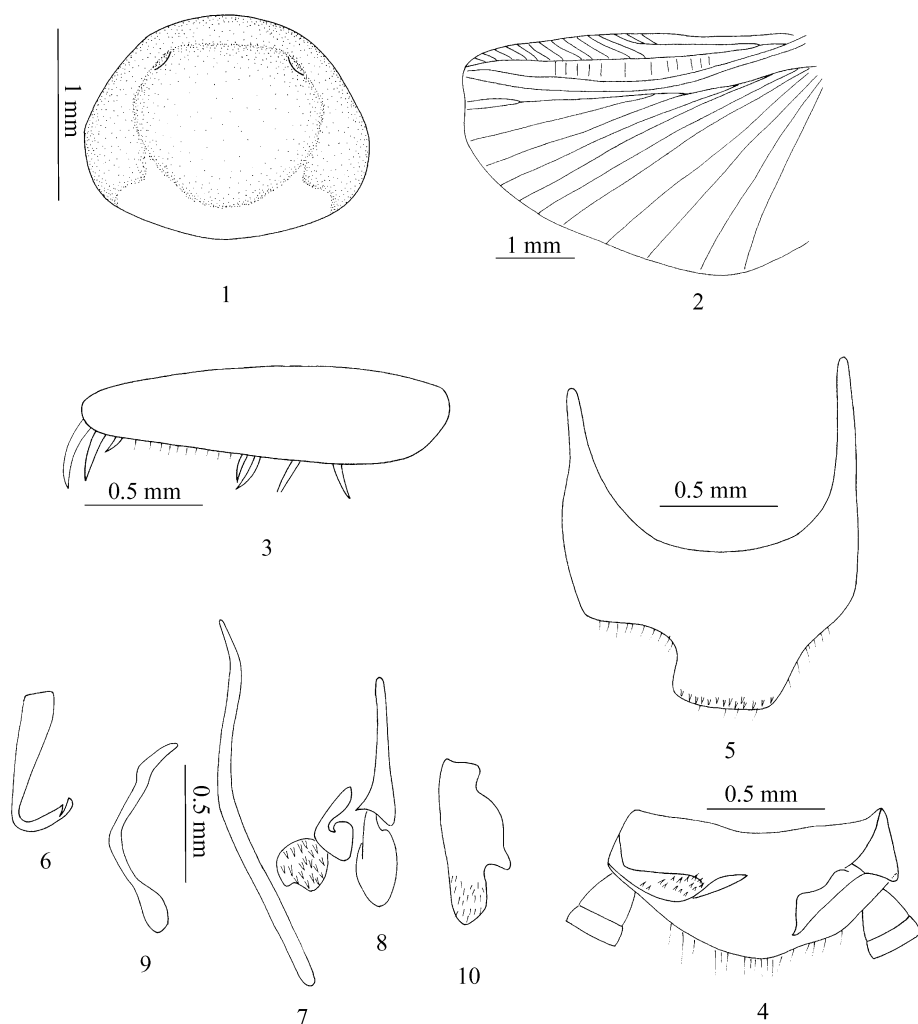
Distribution. Oriental Region.

Key to species of *Jacobsonina* from China (male)

- 1. Hind margin of subgenital plate with a subrectangular medial protrusion, left part nearly truncate and right part slightly concave *J. platysoma*
Not as above 2
- 2. Lateral sides of subgenital plate weakly concave, apex narrowly truncate *J. aliena*
Only left side concave, or both roundly convex 3
- 3. Left lateral angle inversed L shaped incision, right lateral angle smoothly rounded, mid of hind margin produced into one large finger like process *J. tortuosa* sp. nov.
Distal half of subgenital plate about triangular *J. arca* sp. nov.

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Figs 1-10. *Jacobsonina platysoma* (Walker, 1868). 1. Pronotum. 2. Hind wing. 3. Front femur. 4. Supraanal plate and paraprocts, ventral view. 5. Subgenital plate, dorsal view. 6. Left phallomere. 7. Median phallomere. 8. Right phallomere. 9-10. Appendage of median phallomere.

1 *Jacobsonina platysoma* (Walker, 1868) New record to China (Figs. 1-10)

Blatta platysoma Walker, 1868: 111.

Jacobsonina platysoma (Walker), Roth, 1993: 286.

Hemithysocera subcolorata (Walker, 1871), Princis, 1959: 139, synonymised by Roth, 1993: 286.

Specimens examined. 5 ♂♂, Guangxi, Nanning, 4 June 1974, collector unknown; 1 ♂, Yunnan, Xishuangbanna, Damenglong, 650 m, 5 Aug. 1958, coll. ZHANG Yi-Ran; 1 ♀, Yunnan, Xishuangbanna, Damenglong, 650 m, 5 Aug. 1958, coll. WANG Shu-Yong (SWU and IZCAS).

Distribution. China (Yunnan, Guangxi); India, Burma.

2 *Jacobsonina aliena* (Brunner, 1893) (Figs. 11-18)

Phyllochroia aliena Brunner, 1893: 15.

Jacobsonina aliena (Brunner, 1893), Hebard, 1929: 57.

Jacobsonina sigmella Bey-Bienko, 1958: 672, synonymised by Princis, 1969: 804.

Specimens examined. 2 ♂♂, Guizhou, Wangmo,

5/6 June 1982, coll. FENG Ping-Zhang; 1 ♂, Yunnan, 29 May 1980, alt. 888 m, coll. LIU Fen; 1 ♂, Yunnan, Kunming, 21 June 1938, collector unknown (SWU).

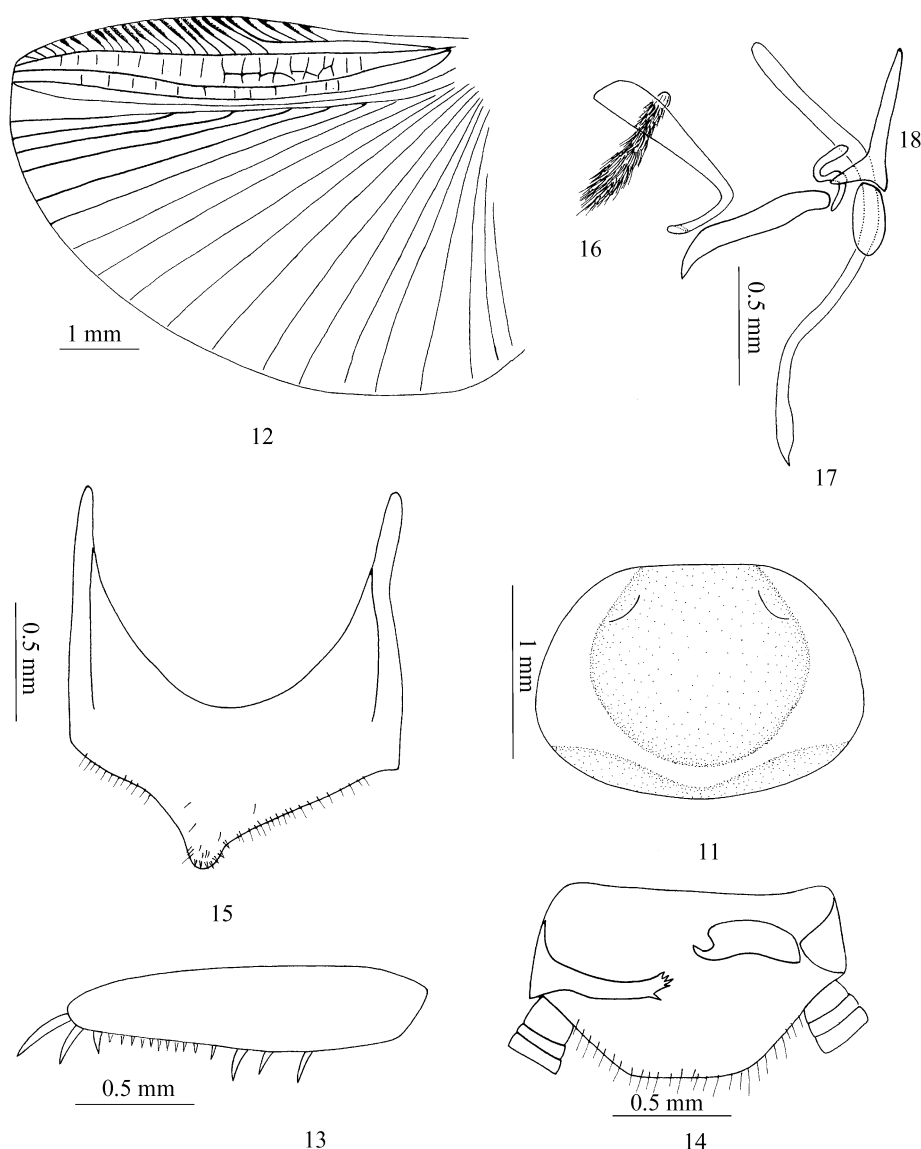
Distribution. China (Yunnan, Guizhou); Burma.

3 *Jacobsonina arca* sp. nov. (Figs. 19-26)

Description. Pronotum length \times width 3.0 mm \times 4.7 mm, tegmen 14.5 mm, body length (including tegmen) 17.5 mm.

Body yellowish brown. Eye black. Occiput region yellowish white; antenna dark brown. Pronotum yellowish brown with blackish brown macula.

The third and fifth maxillary palpomeres about same length, both longer than the fourth. Pronotum with one distinct / \ -shaped dint near apical margin, macula irregular as Fig. 19. Hind wings with narrow radial area, radial vein 4 branched as Fig. 20 (radial vein with



Figs 11-18. *Jacobsonina aliena* (Brunner, 1893). 11. Pronotum. 12. Hind wing. 13. Front femur. 14. Supraanal plate and paraprocts, ventral view. 15. Subgenital plate, dorsal view. 16. Left phallomere. 17. Median phallomere. 18. Right phallomere.

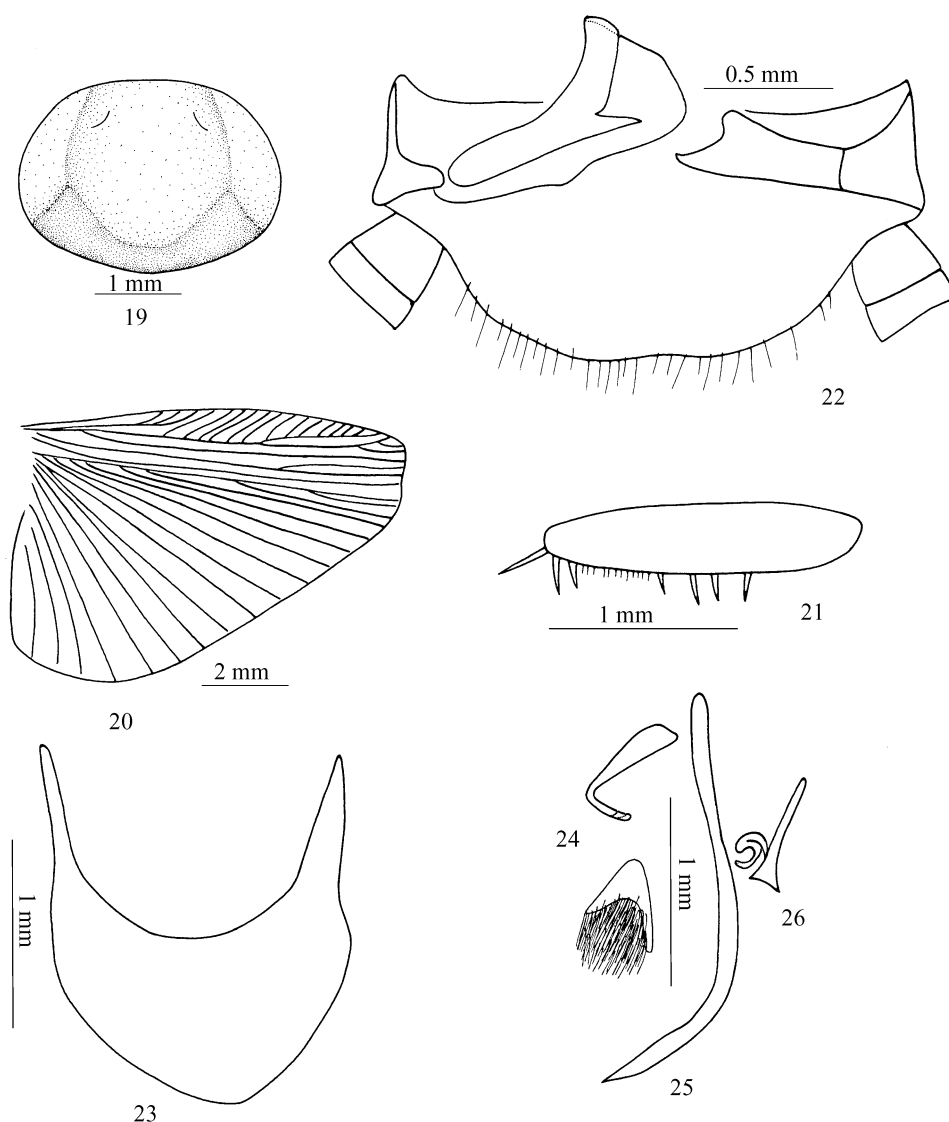
a medial branch, the branches bifurcate about at tip), median vein simple and cubitus vein branched, triangular apical area reduced and smaller (Fig. 20). Front femur Type B₃ (Fig. 21), abdominal terga unspecialised.

Male genitalia. Supraanal plate in ventral view with mediolateral region roundedly convex, hind margin slightly sinuate and with some short setae (Fig. 22); right and left paraprocts asymmetrical, right one with two plates, one simple and slice-like, the other above the first one, branched, apices tapering or rounded; left one irregular, simple plate, distal part branched, apex tapering (Fig. 22). Subgenital plate short, distal part nearly triangular, mid of posterior margin distinctly convex, lateral margins shallowly sinuate (Fig. 23). Genitalia as in Figs. 24-26, hook with sclerotised portion very small and with preapical V-shaped incision (Fig.

24); median phallomere elongated and curved, apex acute, with one brush-like and robust accessory median phallomere, which is stout at one end and threadlike apically (Fig. 25); right phallomere composed of two dark sclerites, stem long and slim, the other small and S-shaped (Fig. 26).

Holotype ♂, Hubei, Zigui, Jiutouling, 100 m, 12 June 1993, coll. LI Weir Zhu. Paratypes: 1 ♂, Hubei, Zigui, Jiutouling, 150 m, 13 June 1993, coll. YAO Jian; 3 ♂♂, 1 ♀, same data to holotype; 1 ♂, Hubei, Zigui, Jiutouling, 150 m, 13 June 1993, coll. HUANG Ruir Zhi; 1 ♂, Hubei, Zigui, Jiutouling, 150 m, 12 June 1993, coll. YAO Jian; 1 ♂, Guangxi, Longsheng, Huabanglinqu, 7 June 1963, coll. LIU Si Kong (SWU).

Remarks. This species strongly resembles to *J.*



Figs 19-26. *Jacobsonina arca* sp. nov. 19. Pronotum. 20. Hind wing. 21. Front femur. 22. Supra anal plate and paraprocts, ventral view. 23. Subgenital plate, dorsal view. 24. Left phallomere. 25. Median phallomere and appendage. 26. Right phallomere.

simplex Hebard, 1929, but can be distinguished by characters below: 1) seventh abdominal tergum unspecialized, but the latter, seventh abdominal tergum specialized, with a pair of round depressions; 2) median phallomere stout and sticklike with one brushlike appendage, and the latter, slim and long without brushlike appendage; 3) mediobasal region of subgenital plate roundedly convex, hind margin slightly sinuate, and the latter, mediobasal region slightly roundedly convex, hind margin almost truncate.

Etymology. The Latin word “arcus” refers to the apex of subgenital plate rounded and produced.

Distribution. China (Hubei, Guangxi).

4 *Jacobsonina tortuosa* sp. nov. (Figs. 27-34)

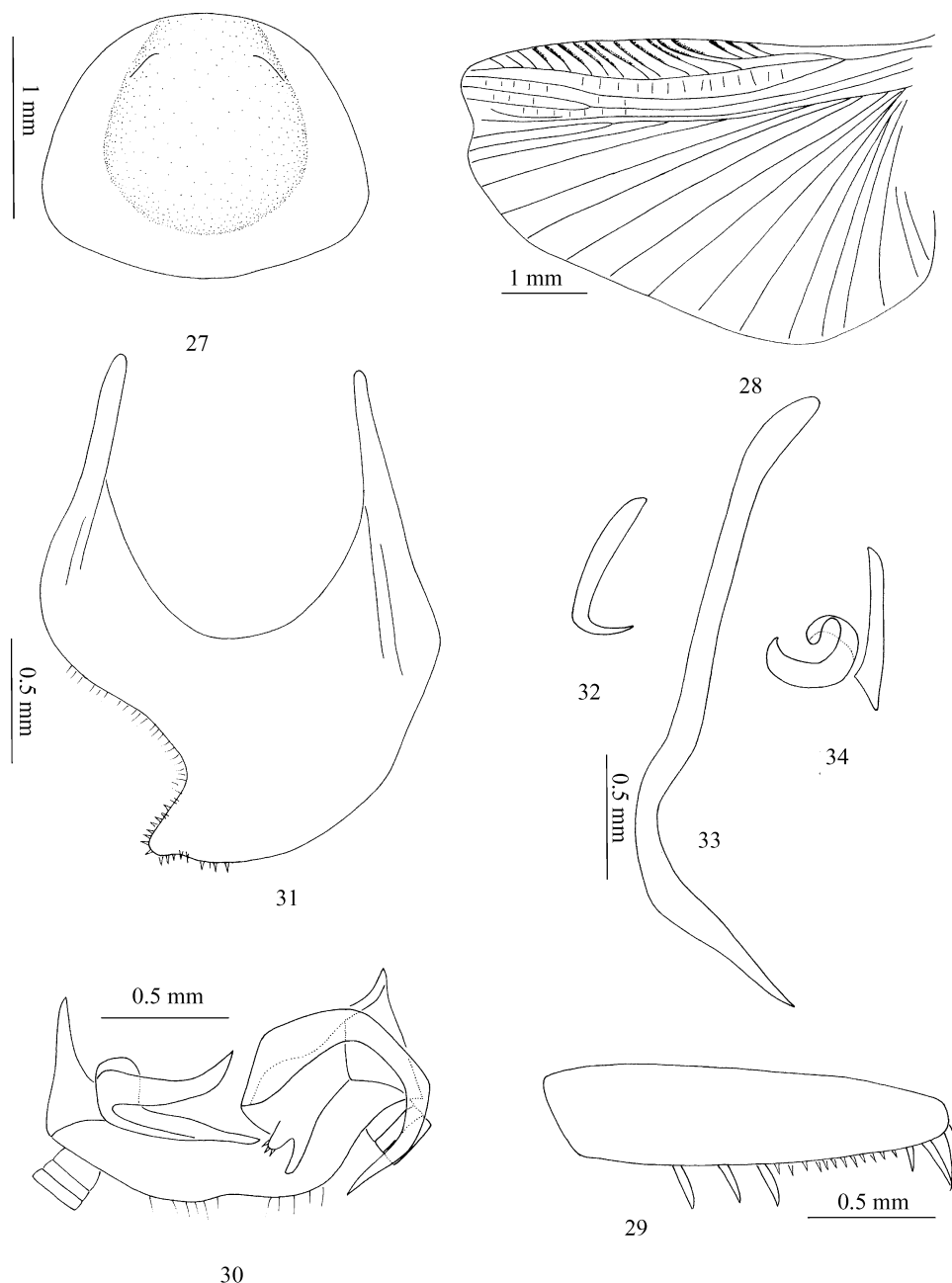
Description. Pronotum length \times width 2.6 mm \times 3.0 mm, tegmen 9 mm, body length (including tegmen)

11.5 mm.

Body yellowish brown. Eye black. Occiput region yellowish white; antenna dark brown. The maxillary palpomeres dark brown. Pronotum yellowish brown with reddish brown macula.

The third and fifth maxillary palpomeres about same length, both longer than the fourth. Pronotum with one distinct / \ - shaped dint near apical margin, macula nearly circular (Fig. 27). Hind wings with narrow radial area, radial vein unbranched, mid of median vein and cubitus veins obviously depressed, cubitus vein branched near apex, triangular apical area and smaller (Fig. 28). Front femur Type B₃ (Fig. 29), abdominal terga unspecialized.

Male genitalia. Supra anal plate in ventral view with mediobasal region roundedly convex, mid of hind margin slightly concave, hind margin obviously sinuate



Figs 27-34. *Jacobsnina tortuosa* sp. nov. 27. Pronotum. 28. Hind wing. 29. Front femur. 30. Supra anal plate and paraprocts, ventral view. 31. Subgenital plate, dorsal view. 32. Left phallomere. 33. Median phallomere. 34. Right phallomere.

and with some short setae (Fig. 30); right and left paraprocts asymmetrical, right simple and slice like, apex acuminate; left paraproct irregular with three processes, two near apical margin short, finger-like and one of them with 3 minute teeth, the process far from apex long and winded with apex acuminate (Fig. 30). Subgenital short and obviously asymmetrical, left lateral angle inversed L-shaped incision with some minute setae, right lateral angle smoothly rounded, mid of hind margin produced into one large finger-like process scattered with some small teeth as Fig. 31. Genitalia as in Figs. 32-34, hook with sclerotised portion very small and without V-shaped

incision (Fig. 32); median phallomere elongated and curved, apex acute, which is stout at one end and threadlike apically, without accessory (Fig. 33); right phallomere composed of two dark sclerites, stem somewhat reduced and small, the other small and G shaped (Fig. 34).

Holotype ♂, Yunnan, Xishuangbanna, Jinghong, 650 m, 5 July 1958, coll. MENG Xir Wu. Paratypes: 2 ♂♂, Yunnan, Xishuangbanna, Damenglong, 650 m, 5 June 1957, coll. WANG Shu-Yong; 1 ♂, same data to holotype; 1 ♂, Yunnan, Xishuangbanna, Damenglong, 650 m, 10 July 1957, coll. HONG Chun

Pei (IZCAS).

Remarks. The species is similar to *J. aliena* (Brunner, 1893), but can be distinguished by: 1) left lateral angle inversed L-shaped incision with some minute setae, right lateral angle smoothly rounded, mid of hind margin produced into one large finger-like process scattered with some small teeth, but the latter, sides weakly concave, apex narrowly truncate; 2) median phallomere stout and sticklike without appendage, and the latter curved with a stout sclerite beneath it.

Etymology. The specific name is derived from Latin, *tortuosus*, referring to the apex of subgenital plate twisting.

Distribution. China (Yunnan).

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中国毡蠊属二新种和一纪录种记述 (蜚蠊目, 姬蠊科)

王宗庆¹ 蒋红云² 车艳丽¹

1. 西南大学植物保护学院 重庆北碚 400716

2. 中国农业科学院植物保护研究所 北京 100094

摘要

1 弧毡蠊, 新种 *Jacobsonina arca* sp. nov. (图 19~26)

本种与简毡蠊 *Jacobsonina simplex* Hebard, 1929 相似, 可从以下特征区分: 1) 腹部第 7 背板不特化, 后者特化, 具 1 对圆形凹陷; 2) 中阳茎粗壮, 呈棒状具 1 刷状附属阳茎, 后者细长无刷状附属阳茎; 3) 下生殖板的后端部弧状突出, 后缘波状弯曲, 后者后端部略弧状突出, 后缘近平截。

正模 ♂, 湖北秭归九头岭, 100 m, 1993-06-12, 李文柱采。副模: 1 ♂, 湖北秭归九头岭, 150 m, 1993-07-13, 姚建采; 3 ♂♂, 1 ♀, 同正模; 1 ♂, 湖北秭归九头岭, 150 m, 1993-06-13, 黄润质采; 1 ♂, 湖北秭归九头岭, 150 m, 1993-06-12, 姚建采; 1 ♂, 广西龙胜花绑林区, 1963-06-7, 刘思

关键词 蜚蠊目, 姬蠊科, 毡蠊属, 新种, 新纪录, 中国。

中图分类号 Q969.252.1

孔采。

2 扭毡蠊, 新种 *Jacobsonina tortuosa* sp. nov. (图 27~34)

本种与特毡蠊 *Jacobsonina aliena* (Brunner, 1893) 相似, 但可从以下特征区分: 1) 下生殖板左侧角呈倒“L”形缺刻, 右侧角圆滑呈指状, 左侧缘波状弯曲, 右侧缘明显弧状突出, 但后者的侧缘微凹入, 端部窄且平截; 2) 中阳茎粗壮, 呈棒状无附属阳茎, 后者中阳茎弯曲且其下具 1 粗壮的骨片。

正模 ♂, 云南西双版纳景洪, 650 m, 1958-07-5, 孟绪武采。副模: 2 ♂♂, 云南西双版纳大勐龙, 650 m, 1957-06-17, 王书永采; 1 ♂, 同正模; 1 ♂, 云南西双版纳大勐龙, 650 m, 1957-07-10, 洪淳培采。